INSECT SURVEY PLANS FOR 1946

(Recopied in part Sept 19, 1947

The forest insect survey plan proposed for the California Region this year closely resembles the plan employed last year in that most of our own staff is assigned to the project and given the responsibility of conducting the field work and reporting upon the results of the field work. The general plan remains the same in most instances; reconnaissance surveys in most of the areas and intensive surveys in certain selected areas. The principal changes this year will be in a few minor changes in personnel assignments, changes in the location of some of the reporting areas, cooperative aid from the Forest Service and State Division of Forestry as well as several of the lumber companies in the form of contributed funds and manpower, and an increase in the amount of intensive surveys which will be done. The reporting procedure is also changed insofar as the scope of country covered by each report is concerned.

Keen has made arrangements with the Forest Service and with the Division of Forestry for cooperation in the survey program, as outlined in his memorandums of August 13, 1946, to the Regional Forester, R-5, of August 14 to our staff and to the State Forester, copies of which were sent to our staff members. These arrangements make it possible to secure help from the regular staffs of the two forestry agencies and to hire additional temporary field assistants from Forest Service funds.

The survey will attempt to cover all major pine areas in the State. To facilitate the assignment of personnel, the distribution of allotted funds and the simplification of reporting these areas have been subdivided into seven "reporting areas" as indicated on the attached map of the State.

SURVEY METHODS

Reconnaissance Surveys

According to Keen's memorandum of August 13 to the Regional Forester "All of the commercial pine stands of the State will be covered by general reconnaissance ..... by members of the Forest Insect Laboratory. This work will be supplemented by such observations as are made by Forest Service personnel as a part of their regular duties and by State rangers assigned to detection surveys. In this phase the Bureau men will gather all general information available from every source as to insect conditions in the sections of the State assigned to them."

It has been suggested that an effort be made to make actual estimates of current insect-caused mortality on each of the seven major reporting areas (see map) to be covered by the survey. This should be done for all stands containing ponderosa, Jeffrey, Coulter, and sugar pine and for stands containing Douglas and white firs and incense cedar when these species occur in mixture with any of the pine species mentioned above. Loss estimates for large blocks of pure Douglas, white or red

fir may be made if requested specifically by cooperating agencies. Estimates made from reconnaissance surveys may be based upon road counts, topographic spotting or observations. The estimates can probably be expressed in terms of trees per section in recreational areas and, by means of resource re-appraisal data of the California Forest and Range Experiment Station, in terms of board feet per acre, per cent of stand or total board feet per given area in the commercial timber areas.

Intensive Surveys

Intensive surveys are proposed for the following areas:

Area A, North Coast - None.

Area B, Eastside Sierra, Northern Section - All virgin stands by means of roadside plots already established. Additional sampling in lightly-cut areas by means of ground plots in the Burney Area (12 320-acre plots already established) and in the Happy Camp-Lava Beds Area (approximately 10 160-acre plots to be established).

Area C, Westside Sierra, Northern Section - In virgin stands in Whitmore area if desired by Division of Forestry or Lassen National Forest or on holdings of Diamond Match Lumber Company or Collins Pine Company if arrangements can be made in the field with these companies. Lightly-cut lands of these two companies may also be included in intensive survey program. Sampling by rectangular or roadside plots, the size and number of plots to be at the discretion of the Bureau representative after consideration of the objectives sought by the cooperating agencies.

Area D, Westside Sierra, Central Section - In large blocked virgin pine stands in localities suggested by the Division of Forestry or the Forest Service and in the Whaler Creek-Slate Mountain 1945-46 insect control project area to test the effectiveness of the control work. The selection of rectangular or roadside plots together with the size and number of plots to be determined by the Bureau representative in consultation with the agencies involved.

Area E, Westside Sierra, Southern Section - In and adjacent to 1945-46 insect control project areas to determine the effectiveness of the control work. Most of these areas will be on the Sierra National Forest. The selection of sampling methods to be determined by Bureau representative in consultation, if necessary, with Forest Service.

Area F, Eastside Sierra, Southern Section - None.

Area G, Southern California - None

Spotting procedure in all intensive surveys will follow the standards we have employed in recent years. A resume of forms necessary for this work and for the procedure to be followed in the case of roadside plots was given in the survey plan for the 1945 season.

SURVEY REPORTS

A survey report will be submitted for each of the seven reporting areas in the State (see map). This will necessitate covering several national forests in a single report as well as some national parks, Indian reservations and large blocks of private timber. It is felt, however, that the forest conditions and, consequently, the insect problems will be fairly uniform within each reporting area so that much repetition will be eliminated. Then, too, each reporting area is the same as those established by the resources re-appraisal study of the forest experiment station so that it will be simple to correlate our mortality estimates with resource estimates for the same areas.

Information to be included in each report for the reporting area as a whole or for its component parts will be (1) location and extent of separate current infestations, (2) estimates of the amount of timber killed or damaged during the past year, (3) probable trend of the current infestations, (4) importance of current infestations in relation to the timber resources and its management, (5) Insect control recommendations and (6) possibility of incurring greater insect hazards resulting from present management of stands.

PERSONNEL ASSIGNMENTS

Reporting Areas	Subdivision	Responsibility For Field Work	Report
A North Coast		Johnson 1/	Johnson
B Eastside	Eastern Plumas Area	Johnson 2/	Johnson
	E. Lassen Area	"	Bongberg
	Burney Area	Hall 3/	Hall
	Fall River Area	"	collaborating
	Modoc National Forest	Bongberg 4/	
	Siskiyou Area	Johnson	
C Westside - Northern		Hall 5/	Hall
D Central Sierra		Patterson 6/	Patterson
E Sou. Sierra		Struble 7/	Struble
F Eagle South		Patterson	Patterson
G Sou. Calif		Keen	Keen

1/ With assistance of Division of Forestry personnel from State District 1 in making surveys in the Lake County recreational area.

2/ With the assistance of one man detailed from Plumas National Forest.

3/ With the assistance of one temporary Bureau employee from Bongberg's crew.

4/ With the assistance of one temporary Bureau employee and two men detailed from the Modoc National Forest.

5/ With the assistance of one man detailed from the Lassen National Forest and one or two men detailed from Diamond Match Lumber Company or Collins Pine Company.

6/ With the assistance of one man detailed from the Tahoe, the Eldorado and the Stanislaus National Forests and two men from the Division of Forestry.

7/ With the assistance of two men detailed from the Sierra National Forest and one man from the Sequoia National Forest and perhaps one man each from Yosemite National Park and Kings Canyon-Sequoia National Parks.

CONTACTS WITH OUTSIDE AGENCIES

Before beginning the survey field work in any locality Bureau men responsible for the work should contact the local representatives of the principal timber owners or managers. This may include such persons as forest supervisors, national and State park superintendents, Deputy State Foresters, Federal and State forest rangers, or representatives of the major timber owners or operators. The survey objectives and procedures should be explained to them and they should be given an opportunity to suggest any modifications in the program to take care of any insect problems which they are aware of and for which they would like more specific information. Whether or not these men are contacted again after the field work is completed depends upon what provisions were made during the first contact and what was found by the survey. In any event they should be informed of any conditions which warrant control measures, in which case a brief memorandum is desirable. If a second contact is not made with these people they should understand that they will receive a copy of the survey report at the close of the field program.

The Regional Forester of the Forest Service and the State Forester have contacted the forest supervisors of the various national forests and the deputy State foresters of the Division's districts where men from there own agencies have been detailed to assist on the survey. Bureau representatives should contact the forest supervisors and deputy State Foresters in ample time to allow them to arrange for the actual detailing of their personnel to the survey. Records should be kept of the man-days, wage rate and per diem charges of all non-Bureau personnel assigned to the survey. This is especially true in the case of Forest Service personnel so that the Regional Office allotment for the survey work is not exceeded.

SUPPLEMENTARY MATERIAL

Certain supplementary information is attached for Bureau men assigned to Reporting Areas C, D and E. This consists of quadrangle sheets showing the location of pine and mixed pine stands in their reporting area, as obtained from the resources re-appraisal data of the California Forest and Range Experiment Station. These maps are on a scale of one-half inch to the mile. They indicate the latitudes and longitudes which form the boundaries of each quadrangle sheet and, since these same latitude and longitude lines are shown on standard Forest Service lithographed maps, the quadrangles may be easily oriented.

The following symbols are used on the quadrangles:

O1-11	Old growth pine, density heavy.
O2-11	" " " , Density medium
O3-11	" " " , density light
O1-12	Old growth mixed conifers, density heavy
O2-12	" " " " , Density medium
O3-12	" " " " , density light
R1-11	Residual pine, density heavy
R2-11	" " , density medium
R3-11	" " , density light
R1-12	Residual mixed conifers, density heavy
R2-12	" " " , density medium
R3-12	" " " , density light

In the above symbols the letter "O" or "R" indicate the age-class structure of the stands. "O" indicates stands in which 50% of the coniferous canopy is composed of mature trees; "R" stands in which the mature trees make up 20-50% of the coniferous canopy. The "1", "2" or "3" indicates density, and the "11" and "12" indicate timber type of the stands ("11" indicates stands in which 80% of the tree canopy and over consists of ponderosa, Jeffrey or sugar pines; "12" indicates mixed coniferous stands in which the pines form less than 80% of the tree canopy, the remainder being occupied by Doublas, white or red firs, incense cedar). In some cases an extra numeral is inserted in the symbol; i.e., R3-6-12. The "6" refers to the ground species, in this case, chaparral. These extra numberals may be disregarded. Blue cross-hatching indicates cutover lands.

Since most of the symboled areas on the quadrangle sheets were delineated from aerial photographs there may be a chance that the on-the-ground stand will vary from its classification on the sheets. This is particularly true in the cutover status which may also include some "R" areas not cross-hatched now. It will be necessary in selecting stands for intensive sampling to check conditions on the ground but it is felt that the quadrangle sheets will be of considerable help in this respect.

In addition to the quadrangle sheets copies of standard 1/2-inch Forest Service maps are attached.

Berkeley, California
September 13, 1946

Philip C. Johnson
Entomologist

Keen

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Entomology and Plant Quarantine
Division of Forest Insect Investigations

LOCATION OF REPORTING AREAS
1946 Forest Insect Survey
California Region